

3-9: Step Functions

Warm-up: Name the greatest integer that is less than or equal to the following:

1. 2.99

2. π

3. $\sqrt{24}$

4. .7777

5. -101.1

6. $\sqrt{2} + \sqrt{3}$

Greatest-Integer:

Step Function:

Example 1: Simplify.

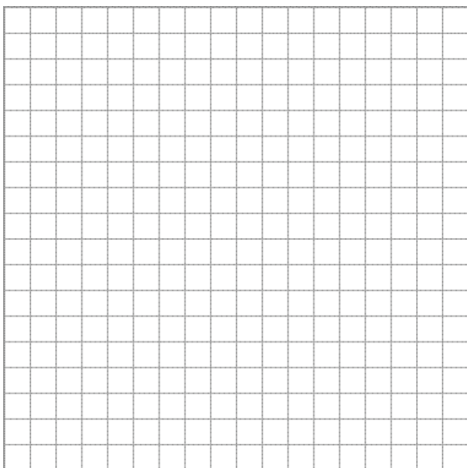
a. $\lfloor 4 \rfloor$

b. $\lfloor -7\frac{2}{5} \rfloor$

c. $\lfloor 3.2 \rfloor$

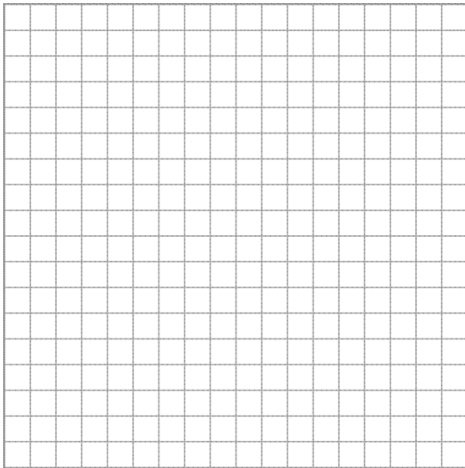
Greatest-Integer Function:

Example 2: Graph $f(x) = \lfloor x \rfloor + 1$.



Example 3: Banks often put pennies in rolls of 50. How many full rolls can be made from p pennies? From 150 pennies? From 786 pennies?

Example 4: Graph $f(x) = 1.5 - 1.5\lfloor 1 - x \rfloor$.



Homework:

"There ain't no free lunches in this country. And don't go spending your whole life commiserating that you got raw deals. You've got to say, 'I think that if I keep working at this and want it bad enough I can have it.'" - Lee Iacocca